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Learning Technologies Project Bulletin

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News from NASA

"Charting the Future" Learning Technologies Project Annual Conference Set for June 1-3 in Portland, Maine

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The 1998 NASA Learning Technologies Project (LTP) Annual Conference will take place from June 1-3, and will be hosted by the Gulf of Maine Aquarium in Portland, Maine. The conference will join principal investigators, their staff, and NASA staff together to use and apply knowledge developed from NASA center-based programs and the old IITA (Information Infrastructure Technology and Applications), and to build a future plan of success for the LTP program.

Main topics of discussion will focus on how improvements can be made to LTP programs in the areas of logistics, presentations, and technology developments. These areas include the reporting and evaluating processes; having well-developed educational tools and Web sites; and seeking to enhance the structure of education through learning technologies.

Tours of the nearby Fairchild Microchip Factory and the DeLorme Mapping Company will be available, and a virtual reality demonstration will be given by Dr. Bowen Loftin, JSC/University of Houston. There will also be a Farewell-to-IITA banquet. To conclude the conference, representatives from the regional outreach centers will meet at the University of Southern Maine for hands-on training in one another's projects.

LTP Identification for Web Sites

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Below are guidelines for Web sites that must be identified with LTP (as well as those that don't have to be). This is lifted from the page at **http://learn.ivv.nasa.gov/ltpmgmt/guidelines/web.html**, which contains further information — in case this isn't enough! Not all LTP sites are identified and linked to the overall LTP site at RSPAC. Please follow these guidelines!

All LTP-supported Web sites should identify themselves as receiving support from NASA's LTP. This information can be placed on the main page of the site or on a page of sponsors/credits linked to from the main page. Use of the NASA insignia logo (blue "meatball" insignia), the NASA logotype (red "worm" logo), and the NASA seal is restricted to sites within the nasa.gov domain. Sample LTP graphics, which may be used by all projects, are posted at **http://learn.ivv.nasa.gov/organization/ltp_logo.html**. Exceptions to this rule will be assessed on a case-by-case basis.

All LTP-supported Web sites should provide a hypertext link to the LTP homepage (**http://learn.ivv.nasa.gov**) from their sites. This link can be placed on the main page of the site or on a page of sponsors/credits linked to from the main page. The link may be from text or a graphic or both. Sample graphics that may be used for linking are posted at **http://learn.ivv.nasa.gov/organization/ltp_logo.html**. Exceptions to this rule based on site structure or look and feel will be assessed on a case-by-case basis.

The above applies to:

· Center-based K-12 projects receiving funding from LTP

· CAN projects started under IITA that will receive funding from LTP or a no-cost extension

· Any LTP-funded project or activity

Web sites begun under IITA funding may provide links to **iita.ivv.nasa.gov** and references to the IITA for historical purposes, but it must be clear that this is not a current funding source. Projects are not required to mention or link to IITA.

Web sites developed under IITA CANs that have run to conclusion but will be maintained under other funding are encouraged to provide a link to the LTP Web site, but should not identify their funding as being from LTP. These projects may continue to mention the NASA IITA project and link to the IITA Web site for historical purposes.

Web sites developed under IITA CANs that have run to conclusion and will not be maintained under other funding may be transferred to RSPAC for archival and continued public access. The content of these sites will be presented with a link to the LTP Web site, but will not be identified as funded by LTP. These sites will mention the NASA IITA project and link to the IITA Web site.

(More News from NASA on page 4)

News Bytes

Phyllis Griggs Named LTP Support Coordinator

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The Remote Sensing Public Access Center (RSPAC) recently named Phyllis Griggs to the position of LTP Support Coordinator. In this position, Ms. Griggs will manage LTP support activities, including requests for work from NASA's Learning Technologies Project groups, and educational outreach.

"In addition to making sites available to science and math teachers, why not broaden our vision to include history, economics, and other subjects? If there's a niche group that needs NASA information and educational materials, the reservoir of information available through LTP should serve them as well," she said.

Ms. Griggs, who has held this position since May 6, said that although there is a learning curve and a period of adjustment to her new position, "Each day the vast amounts of information slowly become smaller and more manageable. I'm looking forward to a long and productive relationship with the LTP community."

Ms. Griggs replaces Winsome Mundy, who has joined the staff at the Space Telescope Science Institute.

In related news, RSPAC lost the services of two other staffers. Longtime graphics lead and LTP support assistant Melissa Waybright accepted a Web design position with BDM International in Fairfax, Virginia, while lead Web programmer Ian Straub has transferred to BDM International's Boulder, Colorado, office. John Hinkle replaced Ian as RSPAC's lead programmer.

"We will certainly miss the skills and companionship of Ian, Melissa, and Winsome, who refined our LTP support services to the high level that they are today," said Dr. Joseph V. Gardner, RSPAC program manager. "However, since we use the deep-team approach at RSPAC, we anticipate no changes in our LTP services. RSPAC has multiple artists, programmers, systems administrators, and other support personnel who are dedicated to providing first-class support to the LTP. Phyllis, who is very capable, will carry on the tradition of service and vision established by Winsome and the rest of the RSPAC team."

Highlights & Happenings

MCET News from the Schools, the Web Site, and More

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News from the Schools

Students at Malden Middle School were assigned an Internet account. The teacher agreed to supervise its use and ensure that all guidelines are followed.

A team of teachers and students from each of the pilot sites was invited to participate in a focus group discussion, chaired by the project's evaluation team, on April 27. Not all the schools had completed the activities related to Take Off!, but some of the students from the pilot sites were going to be involved in the Massachusetts Comprehensive Assessment System testing in May, so the discussion was held early to avoid schedule conflicts. All four pilot sites (Danvers High School, Malden Middle School, Randolph Junior/Senior High School, and East Boston High School) were represented. Prior to the discussion, all participants attended a mini-workshop at the Museum of Science in Boston. The museum visit focused on the exhibits related to human flight and space exploration, the properties of fluids, and the historical perspective of the evolution of transportation. Services available to educators at the museum range from guided tours accompanied by hands-on instructional workshops to loans of audio-visual materials to options that can be customized to the specific needs of the school. Discussion following the visit to the museum was very instructive, and the results will be incorporated in the final evaluation report prepared by the Educational Alliance @ Brown University.

The teachers inquired about the possibility of organizing visits to the Volpe Transportation Center or the MIT Human Factors laboratory. The project team will provide all the support necessary to coordinate such visits for the teachers who are interested.

Two hundred students from Malden Middle School will participate in the Aviation Education Career Expo '98, organized by the Concerned Minority Employees (CME) of the Massachusetts Port Authority, in collaboration with the Federal Aviation Administration (FAA), the Massachusetts Pre-Engineering Program (MASSPEP, Inc.), and United Airlines. The grant will support transportation of the students to and from Logan Airport for the event.

The Web Site

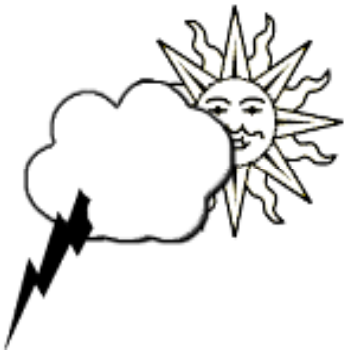
Work on the Web site was completed in the month of April. The new pages will be activated in May.

An analysis of access to the Web site was performed using a demo version of WebTrends. The Take Off! pages are among the most popular within the MCET Web site.

The Take Off! Web site received 47,000 successful hits between April 1 and April 24, with 68% of the traffic from the US, 14% from international users, and 18% of unknown origin. The most popular pages are the history, career cards, and activities sections. Analysis of the statistics showed that

(continued on page 4)

Nothin' but Net



Generating Ideas: There's a "Brain Storm" Brewing

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Heads and opinions clash! Someone strikes down another's comment or idea. True feelings are concealed and group conformity creates a limited palette of ideas. This is a likely scene from a typical brainstorming session. We often find that when faced with the task of generating new ideas we can become very critical of others' opinions. This kind of brainstorming can lead to tension and hurt and the fear of expressing one's true ideas. But brainstorming is an effective tool when used correctly. There is no guarantee of success, but when put to use with a few ground rules and guidelines it can produce a range of creative solutions and ideas.

Brainstorming is often thought of as an unstructured, no-holds-barred debate, but it should follow a fairly formal, constructed process. The technique was invented by Alex Osborn in the 1930s to provide a forum for individuals to offer for discussion a large number of diverse ideas. This should be a primary step in any creative problem solving.

There are some rules to follow in order to enhance the atmosphere of a brainstorming session and relax the participants:

· Ideas must not be criticized or judged; there are no right or wrong answers.

· Participants must feel free to say anything. Far-out ideas can be the best ideas.

· Build on ideas. This is referred to as "piggybacking."

· The more ideas the better.

A brainstorming session should have a time constraint. After the flow of ideas has stopped or the time has run out, it may be necessary to take a break and come back to review and evaluate all of the ideas. The group should determine a set of criteria to use in evaluating the session outcomes.

In order to make use of the ideas generated, the realization of the session's goal should be considered. After discussing the purpose of the session and how to evaluate the ideas, see how many of the ideas fit in or set the goal in a specific direction. Finally, the group should discuss ways to develop the rough ideas and ways in which they may be presented.

Brainstorming allows flexibility for the situations and problems at hand. Today's technology has even created brainstorming software, which has revolutionized this productive process in several ways. It can enhance group dynamics through the anonymity of a computer, which means that members can share ideas anonymously through a database. The database keeps track of the ideas so they can be voted on, ranked, or placed into categories. Other kinds of software are available that help to fuel creative-thinking strategies and develop ranges and varieties of ideas. These processes all branch from the brainstorming technique.

Brainstorming should be a forum for free-flowing, creative thinking, not a pressured or hostile situation of rights and wrongs. Whether we use the original brainstorming techniques or implement new software to aid in the process, it is necessary to break down the prejudices and constraints placed on our thoughts and ideas in order to allow new, creative possibilities.

For more information about brainstorming techniques and technology, check out *Next Generation Brainstorming* by Robert Zadek at **http://www.thinksmart.com/articles/MP_2_2_2.html**; *Studio 1151 Guidebook* by Karen Mcnally and Alan Levine at **http://www.mcli.dist.maricopa.edu.authoring/studio/guidebook/brain.html;** and *Test Driving GroupSystems® Electronic Brainstorming* by the Ventana Corporation at **http://www.ventana.com/html/electronic_brainstorming_test_drive.html**.

New in JavaShop

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Come and see JavaShop's newest creations — crossword puzzles and a drop down menu!

The crossword applet is the Java version of the paper puzzle, but with a twist. Crossword will take a list of words and clues and dynamically create a crossword puzzle. This crossword puzzle applet even keeps score, allowing 10 points for every correct letter. If you hit a stumper you can cheat, but that will cost you 15 points per letter. Crossword is fun and educational, and it's a great way to highlight words from your Web site. The crossword applet was created by RSPAC's Ian Straub. For more information, go to **http://developers.ivv.nasa.gov/tech/javashop/crossword/index.html**.

The drop down menu applet creates a menu that can be used to provide quick navigation through a Web site's pages. The drop down menu was created by RSPAC's Pete Fritsch. For more information, check out **http://developers.ivv.nasa.gov/tech/javashop/crossword/index.html**.

If you would like to be on the LTP Bulletin mailing list, please send e-mail to Scott Gillespie at: sgillespie@rspac.ivv.nasa.gov, or write to: BDM/RSPAC, 100 University Drive, Fairmont, WV 26554. Phone: (304) 367-8324, fax: (304) 367-8211.

News from NASA (cont.)

French and US Students Study Satellite Imagery via Transatlantic Internet Classroom

NASA and the French space agency CNES (Centre National d'Etudes Spatiales) have long cooperated in space research and are now building an international educational program that capitalizes on the excitement of space. On May 13, students in France and the US met via the Internet and gave multimedia presentations which included hosting tours of their cities and comparing surface features and atmosphere with data collected by Earth-observing satellites.

Participants in Paris included Hillary Rodham Clinton, dignitaries from CNES and the French educational system, students at the French National School of Chemistry, Physics, and Biology, and students at the American School of Paris. US participants included NASA Administrator Daniel Goldin, students at the Washington, DC, Kramer Middle School and the Brooklyn School for Global Studies, and leaders in NASA's educational programs.

The transatlantic computer hookup showed students how vital satellite imagery is to the study of the environment, agriculture, geology, and mapping. These students are part of NASA's S'COOL project (Student Cloud Observation On-Line), which allows them to make ground-based analysis of clouds at the time orbiting satellites photograph them from above. Using Titus software, students analyze SPOT 4 images obtained from the shortwave infrared portion of the radio spectrum. This new band provides a clearer view through cloud cover. During the event, French students asked US students why they didn't report the high cloud cover the satellite observed. US students responded that there was a lower, thicker cloud cover that did not allow them to see the higher clouds, but that the satellite could see through the thin, high clouds from above.

S'COOL involves over 100 schools in eight countries and supports NASA research on Earth's climate by helping scientists validate satellite data. Students calculate ground truth observations for the CERES (Clouds and the Earth's Radiant Energy System) instrument, then make weather and cloud observations at the time the satellite passes over their location. Students' data are sent to the NASA Langley Research Center.

This event was the result of a three-week Herculean effort by personnel from NASA and CNES to coordinate the technical issues involving international locations and server support at the Ames and Langley Research Centers. An emergency backup circuit using the INMARSAT portable transceiver in Paris was available.

The virtual classroom involved chat sessions that allowed students to switch between French and English. Translation and transcription services allowed students to speak to one another, and hearing-impaired students and schools with slower Internet connections to read the text version. Dedicated phone lines were used to avoid audio delay, and the analog voice signal was digitized before being sent over the Internet.

The Transatlantic Classroom forms a partnership between NASA and CNES that allows students to communicate across national and cultural barriers. It provides students with the Internet tools that help them understand their universe. The virtual education forum it established will keep students up-to-date on developments in space and provide teachers with a foundation for learning. This project was a major catalyst for upgrading the network connections at the participating schools.

Still images of the event can be viewed at **http://k12unix.larc.nasa.gov/france**.

Contributing personnel included Mark León, Joe Hering, Jeff Seaton, Shelley Canright, Christiy Budenbender, Tom Dyson, Beth Lewandowski, Nand Lal, Susan Hoban, Carissa Green, Frank Swick, Gib Winter, James Mitchell, Alan Federman, Al Ross, Rich Andrews, Jeff Hoffman, Malcom Phelps, Mark Allard, Denis von Kaeppler, Jeff de La Beaujardiere, Dan Cathcart, and many others who worked tirelessly on the project and whose contributions are highly valued. Contributing organizations included Wang Inc., Sterling Software, Schreiber Translations, Inc., Design Specialists, and MacKay Inc.

This bulletin will also be available in Adobe Acrobat format on the Developers' Workshop Web site at: **http://developers.ivv.nasa.gov/collab/pubs/bulletin/**

Highlights & Happenings (cont.)

(continued from page 2)

many users are still accessing the site through the old versions of the pages, so a system to re-direct traffic to the corresponding units on the new pages will be developed. MCET will adopt the WebTrends package to generate similar statistics for all project-related Web pages and the main MCET Web site.

The Final Take Off! Kit

Work continues on re-editing of the Take Off! series for the final video kit. The first unit will be recorded in May and will be ready by the end of June. The development of the Teacher's Guide will follow the new scripts and adapt previous materials to align with the new format. A timeline for the development of the five video units and the guide was completed in April.

Bookmark This!

The Dryden Education pages have moved to **http://trc.dfrc.nasa.gov**. Please update your bookmarks.

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